

MISSOURI DEPARTMENT OF CONSERVATION



November/December 2017

Xplor



**FOLLOW
ME**
TO THE FOREST WE GO


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A powerful ally, the forest is.
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Mmmm, fish sticks. Belted kingfishers catch dinner by diving beak-first into streams and lakes.

📷 by Noppadol Paothong



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ON THE COVER

Raccoon

by Noppadol Paothong

GET OUT!

FUN THINGS TO DO
AND GREAT PLACES
TO DISCOVER NATURE



Red-bellied woodpecker

Hang up a
suet feeder to
**ATTRACT
WOODPECKERS
TO YOUR
YARD.**



Rainbow trout



Take a hike in the
woods and **LOOK
FOR LAST
SUMMER'S
BIRD NESTS.**

TRY WINTER TROUT FISHING.

In early November, grab
your favorite grown-up and find a
stocked community lake near you
at short.mdc.mo.gov/ZoH.

SEE AND LEARN ABOUT BALD EAGLES

at one of six
Eagle Days around the state, and
visit 13 other locations where you
can watch eagles in the wild.
Visit mdc.mo.gov and search
"eagle days" for locations,
dates, and times.



Milkweed pods burst in
November. Collect some and
**SPREAD THE FLUFFY
SEEDS** wherever you'd like
to see monarch butterflies
next summer.

WHAT IS IT?

DON'T KNOW?

Jump to Page 20 to find out.



-
- ❶ My X-shaped tracks don't tell where I'm going.
 - ❷ My tail keeps me steady when I run through the brush.
 - ❸ I live where it's rocky, and the wind's often blowing.
 - ❹ And I eat lots of critters that you wouldn't touch.

Into the WILD

shortleaf pine woodland

There's no better time than the holidays to explore a forest of wild Christmas trees. So put on your coat, head to the Ozarks, and find Missouri's only native pine, the shortleaf pine.

LOOK

Red-headed woodpeckers store acorns and other seeds in the nooks and crannies of trees so they have plenty to eat during winter. Watch closely and you might see a feisty woodpecker chasing a blue jay away from its food.



Smell

If you crush the mitten-shaped leaves of a **sassafras** tree, they smell like root beer.



Listen

Carolina chickadees don't stay in one place for long. The easiest way to find these busy little birds is to listen for their calls. Although they make more than 40 different sounds, the most common are *fee-bee-bye-bye* and *chicka-dee-dee-dee*.



Where to Go

Shortleaf pines in the Ozarks were once as thick as the hairs on a black bear's back. But most pines were cut down in the late 1800s and early 1900s. Luckily, a few pine woodlands remain.

- 1 Sunklands Conservation Area
- 2 Peter A. Eck Conservation Area
- 3 Pickle Springs Natural Area
- 4 Big Spring Pines Natural Area
- 5 Hawn State Park
- 6 Montauk State Park
- 7 Pioneer Forest (L-A-D Foundation)

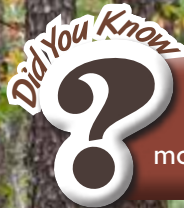




Great horned owl

Take a Closer Look

If you're walking through a pine forest, don't forget to look up. There's a chance an owl is snoozing somewhere up above. The dense evergreen branches shelter the sleepy birds from wind and snow.



Some shortleaf pines in Missouri are more than 200 years old.

What Happened Here?

Black bears claw and bite trees to mark their territory and let other bears know they've been there.



LOOK

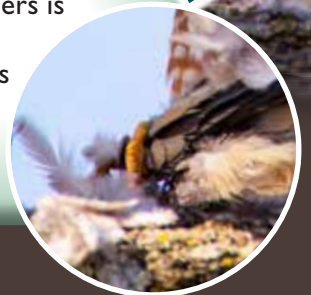
Crossbills

use their snaggletoothed beaks to pry open pine cones so they can eat the seeds inside. The birds aren't common in Missouri, but they show up — usually in winter — when food runs out in their northern forests.



What Happened Here?

Cooper's hawks streak through the trees to attack songbirds. This pile of feathers is probably all that remains from a Cooper's breakfast.



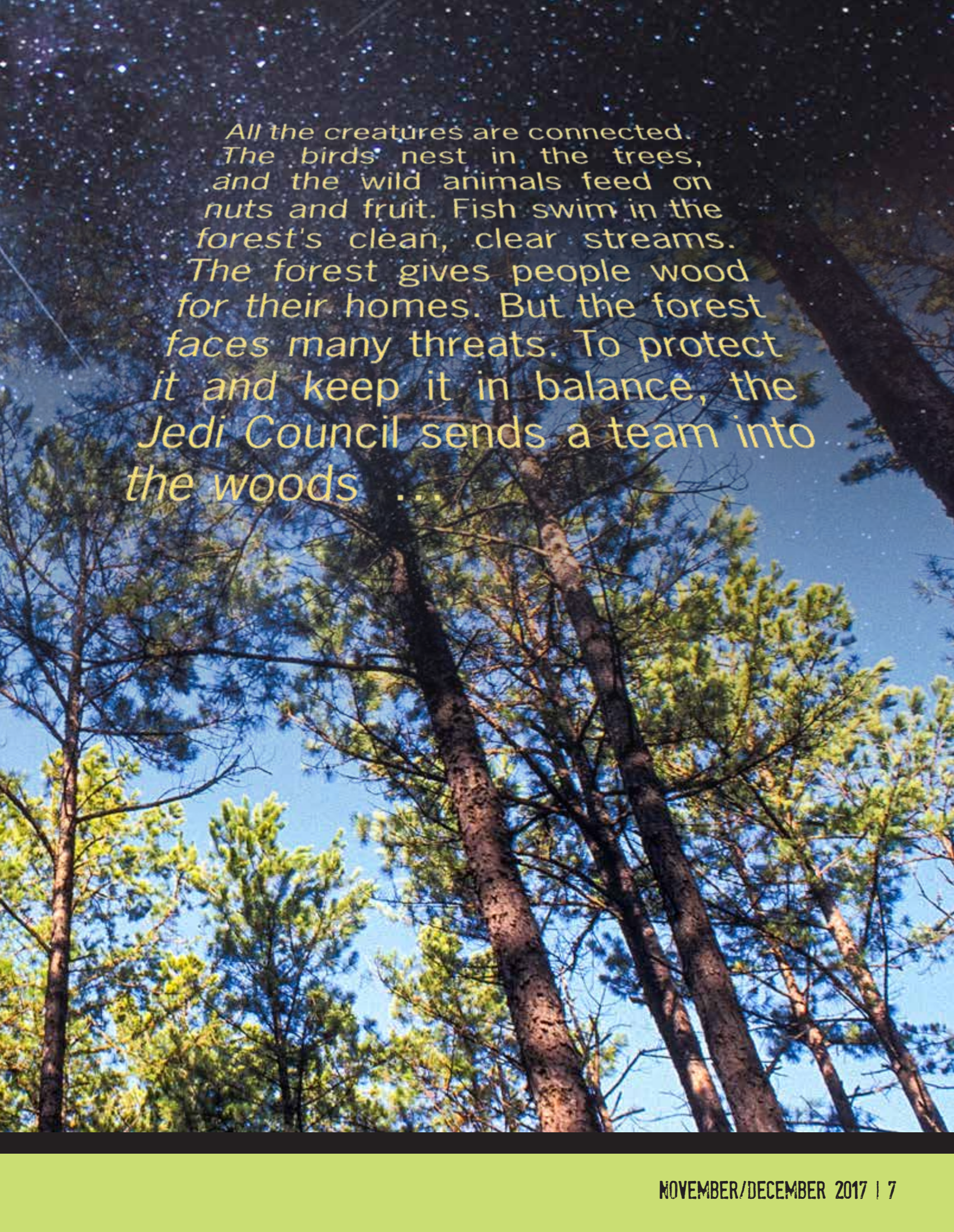


MAY THE FOREST BE WITH YOU

BY BONNIE CHASTEEN

A long time ago
in a forest far, far away...

Stars © MountainStocks | Dreamstime.com



*All the creatures are connected.
The birds nest in the trees,
and the wild animals feed on
nuts and fruit. Fish swim in the
forest's clean, clear streams.
The forest gives people wood
for their homes. But the forest
faces many threats. To protect
it and keep it in balance, the
Jedi Council sends a team into
the woods ...*

THE PHANTOM MENACES

Hidden dangers lurk in the forest. Invading pests like emerald ash borers can kill trees like the Death Star destroys planets. In overgrown forests, dead trees and branches can pile up like kindling, fueling terrible wildfires when lightning strikes or someone drops a match.

That's where the Jedi (aka *foresters*) come in. They use teamwork, special smarts, and a toolbox that includes chainsaws instead of lightsabers to keep the forest strong, healthy, and in balance. They act fast when disease and bad bugs appear. They also help people with their efforts to thin trees and harvest timber in ways that keep the soil healthy, stream water clean and clear, and wildlife happy.

ATTACK OF THE DRONES

Ever have a hard time concentrating? Everyone else is busy with class work, but you're buzzing around like a starfighter without a pilot? Bet you didn't know spending time in a forest could help you focus. It's true. Studies show that playing among trees can help you concentrate, follow directions, and score higher on tests.

So, whatever you do, don't skip recess — especially if your playground has trees. After school or on weekends, visit a forested park with your family and friends. Hike, run, climb, play hide-and-seek — or practice your lightsaber skills. Let the forest supercharge your powers of focus, and use this mind trick to defeat the next Attack of the Drones.

WILD ONES

Forests are home to many creatures, and they all play roles in the forest ecosystem.



THREE-TOED BOX TURTLE

RACCOON

REVENGE OF THE SHADE

The weather can give your poor house a beating. Winter winds can blow away savings when they howl against windows, and in summer, the cost of keeping an unshaded house cool can pick your parents' pockets. You can take revenge against the weather by planting a few shade trees or a windbreak. By the time you're in high school, trees planted this spring will be helping your folks turn their old heating and cooling expenses into savings for college! Pretty sweet revenge, huh?

A GOOD TRADE

Forests don't add much to intergalactic trade (yet), but here in Missouri, they keep a lot of people busy and well paid. Jobs you could do working in a forest or with wood products include forest ecologist (someone who studies forests), foresters (people who manage forests), loggers, sawmill operators, charcoal-makers, coopers (people who make barrels), and furniture makers, just to name a few. What job would you like to do?

**"SIZE
MATTERS
NOT.
MY ALLY
IS THE
FOREST,
AND A
POWERFUL
ALLY IT IS!"**



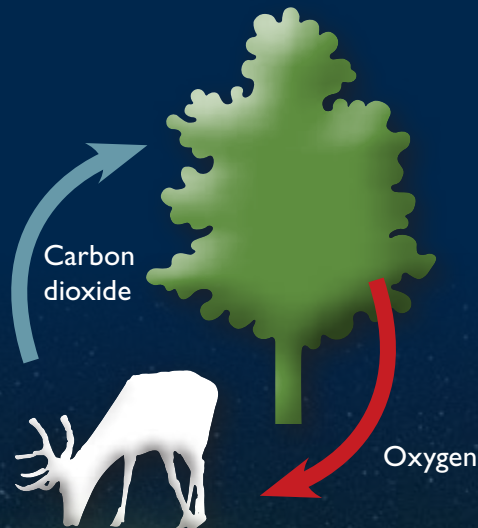
BLACK BEAR

COYOTE

BLUE JAY

THE FOREST STRIKES BACK

Carbon dioxide is a greenhouse gas that traps heat next to the Earth's surface. On one hand, this is a good thing because Earth needs a certain amount of heat to maintain life as we know it. On the other hand, too much greenhouse gas makes the Earth too hot. But the forest has a way of striking back at carbon dioxide. It absorbs this gas and creates oxygen. In fact, for each pound of new wood a tree produces, it removes almost 2 pounds of carbon dioxide from the air and produces 1.3 pounds of oxygen. Now that's the best trade we've ever heard of!



WILD ONES



**WHITE-TAILED
DEER**

BOBCAT

RETURN OF THE FIREFIGHTERS

Sometimes foresters use carefully controlled fires to help woodlands stay open and healthy. But when wildfire strikes, many of these same foresters return as wildland firefighters to combat the fire and prevent future fires from starting. To become firefighters, they must pass fitness, knowledge, and skills tests. With these fighters, the forest is stronger than fear!

"THE FOREST IS STRONG IN MY FAMILY!"

THE FOREST AWAKENS

Even if you don't live in the forest, you probably live in a house built with forest products. And who wants to make do without toilet paper?! Even a part of smartphone computer chips comes from cellulose, a forest product. But maybe the forest's greatest power is the fun you have when you spend time in the woods with family and friends hiking, hunting, fishing, watching birds, and exploring nature. Make you strong and happy, the forest will.



**TIMBER
RATTLESNAKE**

OPOSSUM

**PILEATED
WOODPECKER**

Quail HUNTING



with Grandpa

by Matt Seek
photos by Noppadol Paothong



Austin, Makenna, and Zealand had just reached the top of the hill when they heard a soft *beep*!

“Boo’s got something,” Grandpa said. Boo was Grandpa’s quail hunting dog. Most of the time, she dashed around in a frenzy, barreling through the brush, sniffing this way and that. Boo wore a high-tech collar. When she stopped moving, the collar transmitted a signal to a hand-held receiver that Grandpa carried, causing it to beep.

Makenna knew there were only two reasons Boo would quit running: either she had stopped to water the grass or her sensitive nose had detected the faint whiff of a hidden covey of quail. Makenna hoped it was the second reason.

Grandpa’s pickup had rolled into Austin and Makenna’s driveway long before sunrise. When the kids and their dad, Jeremy, climbed inside they found their cousin, Zealand, waiting for them.



It was a short drive to the conservation area. As the truck rolled into the parking lot, it was still dark. Everyone got out and walked up the hill away from the ticking of the truck's engine, away from the dogs scratching in their pens, out into the dark where the only sound was the breeze swishing through the tall prairie grass. It only took a few minutes for a smile to break across Zealand's face. He pointed west.

Austin and Makenna heard it too: a squeaky *koi-lee!* It was the call of a northern bobwhite, announcing its location to any other quail that were around. Soon, two more joined in with *koi-lee*s of their own.

"We may not find them," Grandpa said, "but at least we know they're here."



In the fall and winter, bobwhites gather into groups called coveys. Each covey usually contains 10 to 20 birds. At night, the covey members gather in a tight bunch and sleep tail to tail. This helps them stay warm and watch for sneaking coyotes and other predators.

In the morning, bobwhites wake up early and walk or fly to weedy fields for breakfast. They are well-camouflaged, and many hunters walk right by a hidden quail without ever knowing the bird was there.

But a quail's crafty camouflage is no match for a bird dog's super sniffer.

Northern bobwhite quail are small brown ground-nesting birds. Bobwhites thrive in weedy fields, shrubby pastures, and along the edges of woods.

They eat seeds, grains, and insects, and are preyed upon by nearly everything, including raccoons, coyotes, snakes, hawks, and humans.



The kids found Boo standing, still as a statue, the muscles in her lean legs quivering. Her nose was pointed at a clump of prairie grass. Her tail stuck straight up like a furry flagpole. In dog language this meant: "I found them, boss. They're right there."

"Get ready," Grandpa whispered. He motioned for the kids to walk forward.

Austin had been on many quail hunts. He knew what was about to happen, yet it always took him by surprise. He felt his heart pounding in his chest. He took one step. Two steps.

QUAIL HUNTING 101

Get Ready

It's best to find an experienced hunter to show you the ropes. A local Quail Forever chapter (quailforever.org) may be able to hook you up with a mentor.

Quail hunting has laws that you must follow. To learn them, visit short.mdc.mo.gov/Z5c.

Nothing is more important than safety. Always hunt with an adult, and learn to safely handle a gun. If you're 11 or older, take a hunter education course (details at mdc.mo.gov/huntereducation).

Gear Up

A youth-model 20-gauge shotgun is perfect for hunting quail. Shotguns shoot a cloud of pellets (called shot). Shot comes in different sizes. Most quail hunters use size 8.

The weather can be chilly during quail season, so dress in layers. Wear an orange hat and vest so other hunters can see you in the tall grass. Thick pants will protect your legs from briars and brush. And you'll walk a lot while quail hunting, so put on sturdy, comfortable boots.





Like feathered fighter jets, the quail streaked out of sight into the woods down the hill. Boo sprung through the grass like a jackrabbit.

"Dead bird, Boo! Dead bird!" Grandpa called.

The dog found the downed quail and carried it proudly back to Grandpa. As he took it from Boo's gentle mouth, he congratulated Austin on making a good shot.

"Well," Grandpa said, "should we call it a day or keep going to see if we can jump another covey or two?"

It didn't take long for Austin, Makenna, and Zealand to decide. "Keep going!" they said in unison.

Boo had made up her mind, too. She had disappeared into the grass, already hard at work tracking down another covey.

Three ...

Quail exploded out of the grass. The birds, at least a dozen of them, rocketed skyward, their wings buzzing like giant angry bees.

Austin shouldered his gun and picked out a bird to shoot. As he clicked off the safety and squeezed the trigger, he heard Makenna and Zealand fire their guns off to his right.

BOOM! ... BOOM! ... BOOM!

They each got only one shot.



Get Out

The regular quail season runs from November 1 to January 15. A two-day youth season, for ages 6 to 15, runs on the last full weekend in October.

Bobwhites do best in small fields or open woodlands that contain tall grasses, lots of weeds, and patches of shrubs. If the fields are next to woody draws, crop fields, or fence rows, that's even better.

Certain conservation areas are managed specifically for quail, and there's probably one of these Quail Emphasis Areas just a short drive away. Find one at short.mdc.mo.gov/Z5q.

Game On

Try to hunt with someone who has a bird dog. A well-trained dog will find hidden quail that most people would miss.

When several quail burst upward at once, focus on a single bird to shoot.

Shoot only a few quail from each covey. Quail huddle together on chilly nights to stay warm. If a covey contains too few quail, nights can become dangerously cold for the remaining birds.

THIS
ISSUE:

RIVER OTTER VS NORTHERN CRAYFISH

Illustrated by
David Besenger

Whisker Sensors

It's hard to smell and see underwater, especially if it's dark or murky, so otters use their sensitive whiskers to help them find prey.

Super Swimmers

With powerful, streamlined bodies, webbed feet, and nearly waterproof fur, few land mammals are fitter for life in the water than otters.

Crayfish Crushers

Otters have special teeth for crunching fish bones, crayfish skeletons, and mussel shells.

Fast Backer-Upper

If its big claws don't scare away foes, the crayfish flicks its strong tail to shoot backward under the nearest rock.

Powers of Detection

Compound eyes and sensitive antennae help the crayfish detect predators and prey.

AND THE WINNER IS...

The crayfish's powers of detection, fierce claws, and quick retreat often can't beat the otter's speed, senses, and killer jaws. The otter wins another crayfish dinner.

STRANGE but TRUE!

YOUR GUIDE TO ALL THE
UNUSUAL, UNIQUE,
AND **UNBELIEVABLE** STUFF
THAT GOES ON IN NATURE

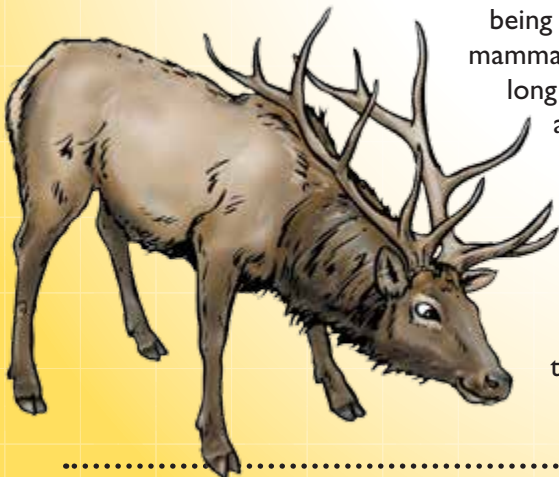


Some **OAK TREES** hang on to their dead, brown leaves all winter long. In the spring, the growth of new leaves finally pushes the dead leaves off.

When a **GREAT HORNED OWL** gets hungry, it will eat nearly anything — even other owls. Barred owls live in the same places as great horned owls, but when a great horned is nearby, barred owls usually fly away to avoid becoming dinner.



LEAST SHREWS win the prize for being Missouri's tiniest mammals. These 3-inch-long predators weigh about as much as a penny. **ELK** are Missouri's largest mammals. Bull elk can tip the scales at more than 800 pounds!



DEVIL CRAYFISH

are big-league burrowers. To reach underground water, the *clawful* crustaceans dig tunnels that can be more than 15 feet deep.



MOURNING DOVES

— like many birds — eat bits of sand and gravel. The grit collects in the dove's gizzard, a muscular part of the stomach. When food reaches the gizzard, the muscles squeeze tightly, and the grit grinds up seeds and other hard items.



The boss bird in a flock of **DARK-EYED JUNCOS** feeds in the center where it's safest. Juncos often lunge at each other and flick open their tails, which is how they decide who gets to be in charge.



CHIPMUNKS

have cheek pouches that they pack like grocery sacks with seeds and nuts. To protect the pouches, 'munks use their sharp teeth to clip off pokey parts of acorns before cramming them inside.



HOW TO

Make "Fishmas" Ornaments

Kee your dreams of landing a lunker alive until spring by making these *fintastic* largemouth bass ornaments.

HERE'S WHAT YOU NEED

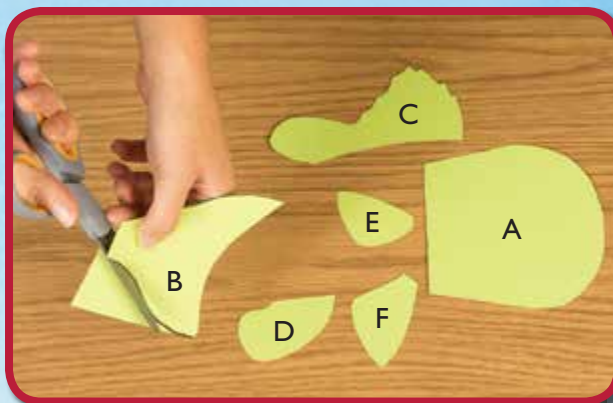
- Green craft paper
- Yellow craft paper
- Crayons
- Scissors
- Glue stick
- Clear tape
- Hole punch
- Fishing line or yarn

HERE'S WHAT YOU DO

1 Trim a piece of green craft paper so that it's square. Fold one corner over to meet the other so that the paper forms a triangle.



8 Punch a hole in the dorsal fin. Thread an 8-inch length of fishing line or yarn through the hole. Tie the line together to form a loop. Hang the loop on a Christmas tree or tape it to the ceiling in your bedroom.



7 From a piece of yellow craft paper, cut out one lower jaw (A), one tail fin (B), one dorsal fin (C), one anal fin (D), two pectoral fins (E), and two pelvic fins (F). Color spines on the fins then tape the jaw and fins to the body.



6 Apply glue and stick the paper together to form a cone.

5 Round off the end of the triangle. Color in the fish's eyes and gill covers.



4 Fold the paper back into a triangle. Starting 2 inches from the end, cut from the center fold upward to the other fold. Continue making cuts every half inch until you are 2 inches away from the other end.



2 Unfold the triangle. Fold the sides in to meet the center crease. The paper should now be shaped like a kite.



3 Unfold the kite. Color white and black stripes.

XPLOR MOR

ROAD TRIP BINGO

Visiting family during the holidays is tons of fun. But spending hours in the car can be a real drag. The next time you're bored on a long drive, play **Road Trip Bingo**.

Instructions

Cut out the bingo cards and pack some pencils. Look out the car window while mom or dad drives. When you spot an item on the card, put an "X" in the box. When you get five X's in a row, yell **"Xplor!"**

Warning:

In Road Trip Bingo if you say "bingo" instead of "Xplor," you must remove one of your X's and continue to look for items until you have five in a row again.



WHAT IS?

— FROM PAGE 3 —

With two toes forward and two toes backward, the greater roadrunner's feet leave tracks that are hard to follow. Its long tail acts like a rudder as it chases after prey, which can include venomous critters like scorpions and snakes. In Missouri, roadrunners live in the southwestern part of the state in dry, rocky areas called glades. Unlike the cartoon roadrunner, the real birds don't go beep, beep — they coo. Learn more at mdc.mo.gov/field-guide.





WINTER EDITION



SUBSCRIBE ONLINE

mdc.mo.gov/xplor

FREE TO MISSOURI HOUSEHOLDS

CRITTER CORNER

American Black Bear



In Missouri, black bears live mainly in the Ozark region. Will they be hibernating in November and December? Yes and no. Pregnant mama bears start denning in November, but most bears will keep foraging as long as they can find food. When food gets scarce, all bears look for a place to sleep until spring. Learn more about bears, including how to be bear aware and how to avoid attracting bears to your yard, at mdc.mo.gov/field-guide.